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NATIONAL COMMUNICABLE DISEASE CENTER

Morbidity and Mortality

Vol. 16, No. 19

WEEKLY REPORT

Week Ending May 13, 1967

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

BUREAU OF DISEASE PREVENTION AND ENVIRONMENTAL CONTROL

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EPIDEMIOLOGIC NOTES AND REPORTS

CANINE RABIES – Guam

Three cases of canine rabies have recently been reported from Guam, an area which had previously been free of rabies. The first case was in a stray mongrel, approximately 5 months of age, possibly brought to the island from southeast Asia. The dog was noted to be hyperexcitable on March 2, with anorexia and general paralysis following. He was found dead on March 6. The head was sent to the Medical Preventive Medicine Laboratory in Honolulu and then referred to the Hawaii Department of Agriculture Pathology Laboratory. There rabies was diagnosed by fluorescent antibody technique on March 13. The diagnosis was confirmed by the Virus Reference Unit at the NCDC on March 20.

The second case of canine rabies was in a "playmate" of the first case. The exposed dog was noted to

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CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

(Cumulative totals include revised and delayed reports through previous weeks)

DISEASE	19th WEEK ENDED		MEDIAN	CUMULATIVE, FIRST 19 WEEKS		
	MAY 13, 1967	MAY 14, 1966	1962 - 1966	1967	1966	MEDIAN 1962 - 1966
Aseptic meningitis	36	33	22	562	524	515
Brucellosis	9	9	5	80	76	122
Diphtheria	1	2	2	39	53	88
Encephalitis, primary:						
Arthropod-borne & unspecified	33	21	- - -	464	460	- - -
Encephalitis, post-infectious	28	24	- - -	310	318	- - -
Hepatitis, serum	43	25		723	470	
Hepatitis, infectious	771	660	769	14,987	12,878	16,925
Malaria	27	2	2	721	102	33
Measles (rubeola)	2,257	8,095	17,937	44,454	142,413	242,275
Meningococcal infections, total	50	93	56	1,114	1,887	1,249
Civilian	49	88	- - -	1,031	1,662	- - -
Military	1	5	- - -	83	225	- - -
Poliomyelitis, total	–	1	1	6	8	25
Paralytic	–	1	1	5	7	20
Rubella (German measles)	2,128	1,960	- - -	24,801	28,443	- - -
Streptococcal sore throat & scarlet fever	10,452	9,246	7,678	225,305	215,970	202,029
Tetanus	1	5	4	54	42	72
Tularemia	5	–	2	54	52	71
Typhoid fever	2	7	7	117	104	120
Typhus, tick-borne (Rky. Mt. spotted fever)	3	–	3	26	11	12
Rabies in animals	92	80	96	1,697	1,685	1,685

NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax	1	Rabies in man	–
Botulism	–	Rubella, Congenital Syndrome	2
Leptospirosis	12	Trichinosis: NYC-1, Wash.-1	32
Plague	–	Typhus, murine: Calif.-1, Fla.-1, Tex.-1	12
Psittacosis: Calif.-1, NYC-1	14	Polio, Unsp.	1

CANINE RABIES – Guam

(Continued from front page)

become weak and ill but showed no signs of aggressiveness; he died 34 days after the death of the first rabid dog. The head was sent to the same laboratory in Honolulu and was diagnosed as infected with rabies by fluorescent antibody technique on April 10.

No details are known about the third case, except that the dog's head was found to be FA positive and Negri body positive on May 6. The tests were carried out by the Army laboratory and confirmed by the Hawaii Department of Agriculture Pathology Laboratory.

Two children were exposed to the initial case. The first child began post-exposure antirabies prophylaxis with duck embryo vaccine one week after being bitten. The second child was also treated with DEV alone, beginning about 2 weeks after the biting incident. There were no known human exposures to the second canine case.

There were four human wound exposures connected with the third case of confirmed rabies: two in navy personnel now at sea, one in the prosector that removed the head and cut himself in the process, and one in a person not identified in the report.

The Department of Public Health on Guam conducted an island-wide rabies control program, during which some 2,800 dogs and 300 cats were vaccinated and almost 2,000 stray dogs were killed. Although there is no embargo on the importation of dogs into the island at present, such a measure is being considered.

(Reported by Dr. Anna O'Riordan, Deputy Director, Department of Public Health, Guam; Dr. Fred Lynd, Veterinary Pathologist and Director of the Hawaii Department of Agriculture Pathology Laboratory.)

SURVEILLANCE SUMMARY
RABIES IN GEORGIA – 1st Quarter, 1967

For the first quarter of 1967 (January through March), 26 cases of rabies in animals have been reported in Georgia. This represents a substantial increase over the totals of 15 cases recorded for the same quarter in both 1966 and 1965.

Among the confirmed cases in 1967 are 13 raccoons, 8 gray foxes, 2 red bats, 1 cow, 1 striped skunk, and 1 dog. The dog developed rabies 9 days after arrival from Iowa. The cases were scattered throughout 18 counties, mostly in south Georgia.

The 15 cases in the first quarter of 1966 were in raccoons and were concentrated in 10 counties in south Georgia.

(Reported by Dr. J.H. Richardson, Director, Public Health Veterinary Section, Epidemiologic Investigations Branch, Georgia Department of Public Health; and the Rabies Control Unit, Veterinary Public Health Section, Epidemiology Program, NCDC.)

INTERNATIONAL NOTES
HUMAN RABIES DEATH – Ontario, Canada

On January 13, 1967, a 4-year-old girl from Richmond, Ontario, Canada, died of rabies. The child had been bitten and scratched on the face by a cat in her home on October 21, 1966. Three other persons were scratched by the cat, two of whom also received bites on the wrist and forearm. The cat was destroyed later that day and the head submitted to the Animal Disease Research Institute of the Department of Agriculture for examination. On the following day when the laboratory reported the presence of Negri bodies in the brain of the cat, antirabies therapy was begun immediately on the child and other exposed persons. Each received 14 daily inoculations of Semple vaccine which was distributed by the Ontario Department of Health.

Approximately 80 days following the attack by the rabid cat, the child showed symptoms of encephalitis which progressed to death. Examination of her brain showed the presence of Negri bodies.

The last recorded death from rabies in Ontario in which Semple type vaccine was used occurred 40 years ago in a child who was attacked and bitten on the face by a rabid dog. A course of 21 doses of vaccine was administered but the child died from rabies on the 25th post-biting day.

(Abstracted from Epidemiological Bulletin, Department of National Health and Welfare, Ottawa, Canada, Vol. 11, No. 2, February 1967).

EPIDEMIOLOGIC NOTES AND REPORTS

MEASLES – Louisiana

Measles activity has been widespread throughout Louisiana during the first 4 months of 1967. Notification by physicians has been sporadic, but nn official system of measles reporting by school absenteeism has indicated that 7,415 cases hnve occurred in 44 of the 61 parishes. The distribution of cases by parish is shown in Figure 1.

Epidemic control has been initiated in several schools, one of the largest being in Rapides Parish in central Louisiana. Around the end of February and beginning of Mnrch, Rapides reported 4 to 28 cases a week. Investigation showed that these cases were distributed throughout the school system. \ survey of school children by letters to the parents revealed over 6,000 susceptibles. \ parish-wide measles campaign was conducted March 15 through 17 by the Rapides Parish Health Unit and the Epidemiology Section of the Louisiana State Board of Health. The school-by-school program was carried out by mobile teams using jet injectors. Preschool children were invited to the school in their section of the parish. Approximately 10,000 vaccinations were given in the 3-day campaign. There have been no reported cases since the campaign.

A similar program was carried out during the fourth week in March in Avoyelles Parish. Around 5,000 vaccinations were given to preschoolers and first and second graders.

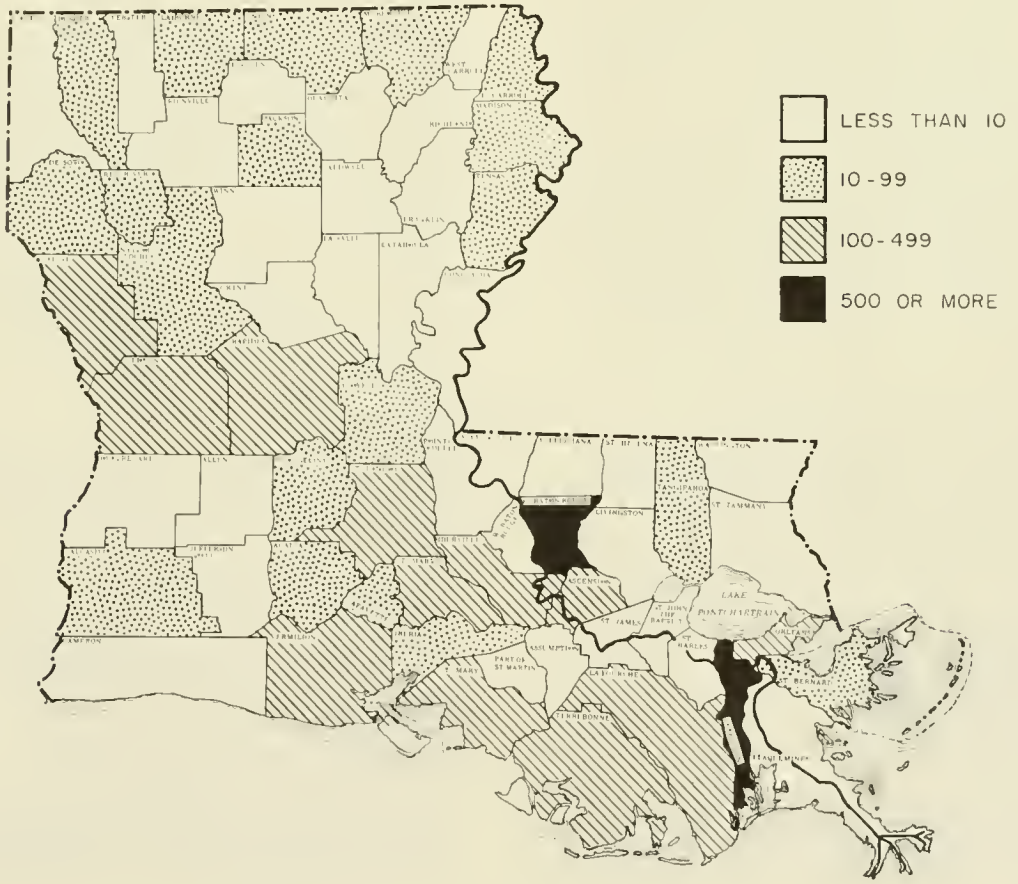
Eight parishes, Tangipahoa, East and West Feliciana, St. Helena Grant, St. James, St. John, and Vernon completed "End Measles" campaigns in April and May in association with the Vaccination Assistance Immunization Project in Louisiana. Campaigns for Baton Rouge and New Orleans are in the planning stage.

(Reported by Dr. John A. Trautman, Chief, Epidemiology Section, Louisiana State Board of Health.)

Figure 1

MEASLES IN LOUISIANA, BY PARISH BASED ON SCHOOL ABSENTEEISM

January – April 1967



RECOMMENDATION OF THE PUBLIC HEALTH SERVICE ADVISORY COMMITTEE ON IMMUNIZATION PRACTICES

The Public Health Service Advisory Committee on Immunization Practices meeting on February 17, 1967, issued the following recommendations on robies prophyloxis for the United Stotes.

RABIES PROPHYLAXIS

Introduction

Although cases of rabies in humans are rare in the United States, thousands of persons receive rabies prophylaxis each year. The following approach to prevention is based on a contemporary interpretation of both the risk of infection and the efficacy of treatment and incorporates the basic concepts of the WHO Expert Committee on Rabies [1].

The problem of whether or not to immunize those bitten or scratched by animals suspected of being rabid is a perplexing one for physicians. All available methods of systemic treatment are complicated by numerous instances of adverse reactions, a few of which have resulted in death or permanent disability. Furthermore, the decision must be made immediately because the likelihood that any prophylactic measure will contribute to the prevention of rabies diminishes rapidly as the interval between exposure and treatment increases.

The acceptable evidence for efficacy of both active and passive immunization following exposure is derived largely from experimental studies in animals. Because rabies on occasion has developed in humans who received antirabies prophylaxis, the value of treatment has been questioned. However, evidence from laboratory and field experience in many areas of the world indicates post-exposure prophylaxis can be highly effective when appropriately used.

Status of Robies in the United States

The incidence of rabies in humans has declined from an average of 22 cases per year in 1946 through 1950, to 1 case per year in 1963 through 1966. Rabies in domestic animals has diminished similarly. In 1946, there were more than 8,000 cases of rabies in dogs, compared with 412 in 1966. Thus, the likelihood of humans' being exposed to rabies by domestic animals has decreased greatly, although bites by dogs and cats continue to be responsible for the overwhelming majority of antirabies treatments.

In contrast, the disease in wildlife – especially skunks, foxes, and bats – has become increasingly prominent in recent years, accounting for more than 70 percent of all reported cases of animal rabies in 1966. During that year, only four States were reportedly free of wildlife rabies. Wild animals constitute the most important source of infection for both domestic animals and man in the United States today.

Stotus of Antirabies Treotment in the United States

More than 30,000 people receive post-exposure antirabies treatment each year. However, there is no information regarding the number of persons actually exposed to rabid animals.

Nervous tissue origin rabies vaccine of the Semple type (NTV) was used almost exclusively in the United States until 1957, when the duck embryo origin vaccine (DEV) was licensed. More than 75 percent of those who received rabies prophylaxis in the United States in 1965 were given DEV.

There has been remarkable variation in the rate of adverse reactions associated with NTV. In the United States, it is generally accepted that one individual among 4,000 to 8,000 persons receiving NTV antirabies treatment develops neurologic complications. Death has been attributed to NTV in a ratio of one to every 35,000 persons treated.

Neurologic complications associated with DEV have been reported for one of every 25,000 persons treated. One possibly related death has occurred among some 172,000 who have received DEV since its introduction.

Rotionole of Treotment

Every exposure to possible rabies infection must be individually evaluated. In the United States, the following factors should be considered before specific antirabies treatment is initiated:

Species of biting onimol involved

Carnivorous animals (especially skunks, foxes, coyotes, raccoons, dogs, and cats) and bats are more likely to be infective than other animals. Bites of rodents seldom, if ever, require specific antirabies prophylaxis.

Circumstonces of the biting incident

An *unprovoked* attack is more likely to mean that the animal is rabid. (Bites during attempts to feed or handle an apparently healthy animal should generally be regarded as *provoked*).

Extent and location of bite wound

The likelihood that rabies will result from a bite varies with its extent and location. For convenience in approaching management, two categories of exposure are widely accepted:

Severe: Multiple or deep puncture wounds, and any bites on the head, face, neck, hands, or fingers.

Mild: Scratches, lacerations, or single bites on areas of the body other than the head, face, neck, hands, or fingers. Open wounds, such as abrasions, which are suspected of being contaminated with saliva also belong in this category.

Vaccination status of the biting animal

An adult animal immunized properly with one or more doses of rabies vaccine has only a minimal chance of developing rabies and transmitting the virus.

Presence of rabies in the region

If adequate laboratory and field records indicate that there is no rabies infection in a domestic species within a given region, local health officials may be justified in taking this into consideration in any recommendations concerning antirabies treatment following a bite by that species.

Management of Biting Animals

A dog or cat that bites a human should be captured, confined, and observed by a veterinarian for at least 5 days, preferably 7 to 10. Any illness in the animal should be reported immediately to the local health department. If the animal dies, the head should be removed and shipped under refrigeration to a qualified laboratory for examination. Because clinical signs of rabies in a wild animal cannot be reliably interpreted, the animal should be killed at once and its brain examined for evidence of rabies.

Local Treatment of Wounds

Immediate and thorough local treatment of all bite wounds and scratches is perhaps the most effective means of preventing rabies. Experimentally, the incidence of rabies in animals can be markedly reduced by local therapy alone.

First-aid treatment to be carried out immediately

Copious flushing with water alone, soap and water, or detergent and water.

Treatment by or under direction of a physician

1. Thorough flushing and cleansing of the wound with soap solution. Quaternary ammonium compounds may also be used.*
2. If antirabies serum is indicated, a portion of the total dose should be thoroughly infiltrated around the wound. As in all instances in which horse serum is used, a careful history should be taken and tests for hypersensitivity performed [2].
3. Tetanus prophylaxis [2] and measures to control bacterial infections as indicated.
4. Suturing of wound or other form of primary closure is *not* advised.

*All traces of soap should be removed before quaternary ammonium compounds are applied because soap neutralizes their activity.

Post-exposure Prophylaxis

Active Immunization

Rabies Vaccine Preparations

Duck Embryo Vaccine (DEV)

Prepared from embryonated duck eggs infected with a fixed virus and inactivated with beta-propiolactone.

Nervous Tissue Vaccine (NTV)

Prepared from rabbit brain infected with a fixed virus and inactivated by phenol at 37°C. (Semple type) or inactivated by ultraviolet irradiation.

Antigenicity of Vaccines

Antigenicity of NTV is often higher than that of DEV when tested in experimental animals. However, all lots of both vaccines must pass minimum potency tests established by the Division of Biologics Standards, National Institutes of Health. There is evidence that the serum antibody response in humans is detectable earlier following DEV vaccination, but the eventual level of response is frequently higher with NTV.

Effectiveness of Vaccines in Humans

In the United States, comparative effectiveness of vaccines can only be judged by frequencies of failure to prevent disease. During the years 1957 through 1967 when both vaccines were available, there were 6 rabies deaths among the 117,700 NTV-treated persons (1:19,600) and 7 deaths among the 172,000 treated with DEV (1:24,500).

Reactions

Erythema, pruritis, pain, and tenderness at the site of inoculation are common with both DEV and NTV. Systemic responses, including low grade fever, or rarely shock, may occasionally occur late in the course of therapy with either vaccine, usually after five to eight doses. In rare instances, serious reactions have occurred after the first dose of DEV or NTV, particularly in persons previously sensitized with vaccines containing avian or rabbit brain tissue.

As described previously, neuroparalytic reactions occur rarely with DEV. They are considerably more frequent following NTV, especially after repeated courses of treatment with this preparation.

Choice of Vaccine

Rates of treatment failures with the two vaccines are not significantly different; therefore, the

lower frequency of central nervous system reaction with DEV makes it preferable to NTV.

Schedule for Vaccine Use

Primary Course

At least 14 single, daily injections of vaccine in the dose recommended by the manufacturer. These should be given subcutaneously in the abdomen, lower back, or lateral aspect of thighs; rotation of sites is recommended.

For severe exposures, 21 doses of vaccine are recommended. These may be given as 21 daily injections or 14 doses during the first 7 days (either two separate injections or a double dose), the remaining doses given singly during the next 7 days.

Booster Immunization

Two booster doses, one 10 days and the other at least 20 days after completion of the primary course. The two booster doses are particularly important if antirabies serum was used in the initial therapy.

Precautions

When rabies vaccine must be given to a person with a history of hypersensitivity, especially to avian or rabbit tissues, antihistaminic drugs should be used. Epinephrine is helpful in those of the anaphylactoid type. If serious allergic manifestations preclude continuation of prophylaxis with one vaccine, the other may be used.

When meningeal or neuroparalytic reactions develop, vaccine treatment should be discontinued altogether. Corticotrophin or corticosteroids are used for such complications.

Passive Immunization

Hyperimmune serum has proved effective in preventing rabies. Its use in combination with vaccine is considered the best post-exposure prophylaxis. However, the only preparation of antirabies serum now available in the United States is of equine origin. Because horse serum induces allergic reaction in at least 20 percent of those receiving it, its use must be limited.

It is recommended for most exposures classified as severe, and for *all* bites by rabid animals, wild carnivores, and bats. When indicated, antirabies serum should be used regardless of the interval between exposure and treatment.

The dose recommended is 1000 units (one vial) per 40 pounds of body weight. A portion of the antiserum is used to infiltrate the wound, and the remainder administered intramuscularly. As previously noted, a careful history must be obtained and appropriate tests for hypersensitivity performed.*

Pre-exposure Immunization

The relatively low frequency of reactions to DEV has made it more practical to offer pre-exposure immunization to persons in high-risk groups: veterinarians, animal handlers, certain laboratory workers, and personnel stationed in areas of the world where rabies is a constant threat. Others whose vocational or avocational pursuits result in frequent exposures to dogs, cats, foxes, skunks, or bats should also be considered for pre-exposure prophylaxis.

Two 1.0 ml injections of DEV given subcutaneously in the deltoid area 1 month apart should be followed by a third dose 6 to 7 months after the second dose. This series of three injections can be expected to produce neutralizing antibody in 80 to 90 percent of vaccinees 1 month after the third dose.

If more rapid immunization is desirable, three 1.0 ml injections of DEV may be given at weekly intervals with a fourth dose 3 months later. This schedule elicits an antibody response in about 80 percent of the vaccinees.

All those receiving the pre-exposure vaccination should have their serum tested for neutralizing antibody 3 to 4 weeks after the last injection. Tests for rabies antibody can be arranged with or through state health department laboratories. If no antibody is detectable, booster doses should be given until a response is demonstrated. Persons with continuing exposure should receive 1.0 ml boosters every 2 to 3 years.

When an immunized individual with previously demonstrated antibody is exposed to rabies, it is suggested that for a mild exposure, one booster dose of vaccine be given, and for a severe exposure, five daily doses of vaccine plus a booster dose 20 days later. If it is not known whether an exposed person had antibody, the complete post-exposure antirabies treatment should be given.

References

(1) Technical Report Series No. 321, WHO Expert Committee on Rabies, Fifth Report, 1966.

(2) Recommendation of the Public Health Service Advisory Committee on Immunization Practices: Diphtheria, Tetanus, and Pertussis Vaccines – Tetanus Prophylaxis in Wound Management, *Morbidity and Mortality Weekly Report*, Vol. 15, No. 48, week ending December 3, 1966.

*A useful guide for use of animal serum is included in the recommendation for tetanus prophylaxis in wound management prepared by the PHS Advisory Committee on Immunization Practices (2).

CHECKLIST OF TREATMENTS FOR ANIMAL BITES

(See Text for Details)

1. Flush Waund Immediately (First Aid).
2. Tharough Wound Cleansing Under Medical Supervisian.
3. Antirobies Serum and 'ar Vaccine as Indicated.
4. Tetanus Praphyloxis and Antibacterial Treatment when Required.
5. Na Sutures ar Wound Closure Advised.

GUIDE FOR POST-EXPOSURE ANTIRABIES PROPHYLAXIS

The following recommendations are intended only as a guide. They may be modified according to knowledge of the species of biting animal and circumstances surrounding the biting incident

Biting Animal		Treatment		
Species	Status at Time of Attack	Exposure		
		No Lesian	Mild*	Severe*
Dog or Cat	healthy	none	none[1]	S[1]
	signs suggestive of rabies	none	V[2]	S+V[2]
	escaped or unknown	none	V	S+V
	rabid	none	S+V	S+V
Skunk, Fox, Raccoon, Coyote, Bat	regard as rabid in unprovoked attack	none	S+V	S+V
Other	consider individually—see Rationale of Treatment in text			

Code: * = See definitions in text.
V = Rabies Vaccine
S = Antirabies Serum
1 = Begin vaccine at first sign of rabies in biting dog or cat during holding period (preferably 7-10 days).
2 = Discontinue vaccine if biting dog or cat is healthy 5 days after exposure, or if acceptable laboratory negativity has been demonstrated in animal killed at time of attack. If observed animal dies after 5 days and brain is positive, resume treatment.

CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED
MAY 13, 1967 AND MAY 14, 1966 (19th WEEK)

AREA	ASEPTIC MENINGITIS		BRUCELLOSIS	DIPHTHERIA	ENCEPHALITIS			HEPATITIS			
					Primary including unsp. cases		Post-Infectious	Serum		Infectious	
	1967	1966	1967	1967	1967	1966	1967	1967	1966	1967	1966
UNITED STATES...	36	33	9	1	33	21	28	43	25	771	660
NEW ENGLAND.....	-	-	-	-	5	1	-	-	1	37	39
Maine.....	-	-	-	-	-	-	-	-	-	1	8
New Hampshire.....	-	-	-	-	-	-	-	-	-	3	-
Vermont.....	-	-	-	-	-	-	-	-	-	2	1
Massachusetts.....	-	-	-	-	-	-	-	-	-	17	14
Rhode Island.....	-	-	-	-	3	1	-	-	1	3	9
Connecticut.....	-	-	-	-	2	-	-	-	-	11	7
MIDDLE ATLANTIC.....	2	4	-	-	4	9	-	25	12	113	116
New York City.....	-	2	-	-	1	2	-	10	6	34	30
New York, up-State.	-	-	-	-	2	-	-	3	1	29	35
New Jersey.....	1	2	-	-	-	6	-	12	4	22	21
Pennsylvania.....	1	-	-	-	1	1	-	-	1	28	30
EAST NORTH CENTRAL...	1	5	-	-	6	1	9	1	-	121	127
Ohio.....	-	2	-	-	4	1	-	-	-	28	33
Indiana.....	-	-	-	-	1	-	-	-	-	9	5
Illinois.....	1	2	-	-	1	-	7	1	-	30	17
Michigan.....	-	1	-	-	-	-	2	-	-	51	68
Wisconsin.....	-	-	-	-	-	-	-	-	-	3	4
WEST NORTH CENTRAL...	-	1	-	-	1	2	2	-	1	86	32
Minnesota.....	-	1	-	-	-	-	2	-	1	13	7
Iowa.....	-	-	-	-	1	-	-	-	-	9	13
Missouri.....	-	-	-	-	-	-	-	-	-	59	9
North Dakota.....	-	-	-	-	-	-	-	-	-	1	-
South Dakota.....	-	-	-	-	-	2	-	-	-	-	-
Nebraska.....	-	-	-	-	-	-	-	-	-	2	-
Kansas.....	-	-	-	-	-	-	-	-	-	2	3
SOUTH ATLANTIC.....	1	4	7	1	3	3	2	-	3	82	57
Delaware.....	-	2	-	-	-	-	-	-	-	2	2
Maryland.....	1	-	-	-	-	-	1	-	1	17	12
Dist. of Columbia..	-	-	-	-	-	-	-	-	-	1	-
Virginia.....	-	-	7	-	1	1	1	-	1	32	5
West Virginia.....	-	-	-	-	1	2	-	-	-	1	5
North Carolina.....	-	1	-	1	-	-	-	-	-	8	4
South Carolina.....	-	-	-	-	-	-	-	-	-	1	7
Georgia.....	-	-	-	-	-	-	-	-	-	6	10
Florida.....	-	1	-	-	1	-	-	-	1	14	12
EAST SOUTH CENTRAL...	6	-	1	-	-	1	5	1	2	56	49
Kentucky.....	-	-	-	-	-	-	-	-	-	27	19
Tennessee.....	1	-	1	-	-	1	5	1	-	15	20
Alabama.....	-	-	-	-	-	-	-	-	2	8	4
Mississippi.....	5	-	-	-	-	-	-	-	-	6	6
WEST SOUTH CENTRAL...	14	8	1	-	5	1	1	-	-	82	61
Arkansas.....	-	-	-	-	-	-	-	-	-	2	9
Louisiana.....	1	1	-	-	3	-	-	-	-	8	14
Oklahoma.....	-	-	-	-	-	-	-	-	-	4	-
Texas.....	13	7	1	-	2	1	1	-	-	68	38
MOUNTAIN.....	-	2	-	-	1	-	-	-	-	40	26
Montana.....	-	-	-	-	-	-	-	-	-	3	1
Idaho.....	-	-	-	-	-	-	-	-	-	1	3
Wyoming.....	-	-	-	-	-	-	-	-	-	1	1
Colorado.....	-	-	-	-	1	-	-	-	-	16	4
New Mexico.....	-	-	-	-	-	-	-	-	-	6	6
Arizona.....	-	2	-	-	-	-	-	-	-	11	9
Utah.....	-	-	-	-	-	-	-	-	-	2	2
Nevada.....	-	-	-	-	-	-	-	-	-	-	-
PACIFIC.....	12	9	-	-	8	3	9	16	6	154	153
Washington.....	-	1	-	-	-	-	1	-	-	15	10
Oregon.....	-	-	-	-	1	-	-	2	-	18	14
California.....	11	8	-	-	3	3	8	14	6	121	126
Alaska.....	-	-	-	-	-	-	-	-	-	-	2
Hawaii.....	1	-	-	-	4	-	-	-	-	-	1
Puerto Rico	-	-	-	-	-	-	-	-	-	16	20

CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

MAY 13, 1967 AND MAY 14, 1966 (19th WEEK) - CONTINUED

AREA	MALARIA	MEASLES (Rubeola)			MENINCOCOCCAL INFECTIONS, TOTAL			POLIOMYELITIS			RUBELLA
			Cumulative			Cumulative		Total	Paralytic		
	1967	1967	1967	1966	1967	1967	1966	1967	1967	Cum. 1967	1967
UNITED STATES...	27	2,257	44,454	142,413	50	1,114	1,887	-	-	5	2,128
NEW ENGLAND.....	-	34	554	1,610	2	49	82	-	-	-	251
Maine.....	-	-	140	170	1	3	7	-	-	-	22
New Hampshire.....	-	2	71	34	-	2	7	-	-	-	16
Vermont.....	-	1	36	209	-	-	3	-	-	-	30
Massachusetts.....	-	22	209	608	-	23	33	-	-	-	118
Rhode Island.....	-	7	38	66	1	3	7	-	-	-	9
Connecticut.....	-	2	60	523	-	18	25	-	-	-	56
MIDDLE ATLANTIC.....	1	96	1,495	15,473	6	170	209	-	-	2	69
New York City.....	1	16	260	7,585	2	28	33	-	-	1	34
New York, Up-State.	-	25	344	1,779	1	42	59	-	-	-	34
New Jersey.....	-	26	362	1,607	1	67	57	-	-	-	-
Pennsylvania.....	-	29	529	4,502	2	33	60	-	-	1	1
EAST NORTH CENTRAL...	2	217	3,631	52,159	11	129	282	-	-	-	365
Ohio.....	-	68	639	4,981	6	50	77	-	-	-	22
Indiana.....	2	14	428	3,639	1	16	48	-	-	-	25
Illinois.....	-	30	588	9,856	2	27	54	-	-	-	53
Michigan.....	-	57	771	8,880	2	27	74	-	-	-	149
Wisconsin.....	-	48	1,205	24,803	-	9	29	-	-	-	116
WEST NORTH CENTRAL...	4	78	1,938	6,696	3	48	104	-	-	-	175
Minnesota.....	1	2	94	1,475	2	11	25	-	-	-	2
Iowa.....	-	41	501	3,915	1	10	15	-	-	-	138
Missouri.....	-	4	139	383	-	11	43	-	-	-	5
North Dakota.....	-	24	693	850	-	-	4	-	-	-	13
South Dakota.....	-	-	46	4	-	6	3	-	-	-	-
Nebraska.....	-	6	464	69	-	8	7	-	-	-	17
Kansas.....	3	1	1	NN	-	2	7	-	-	-	-
SOUTH ATLANTIC.....	9	365	5,142	10,920	11	216	304	-	-	1	94
Delaware.....	-	3	35	157	-	5	3	-	-	-	1
Maryland.....	-	3	88	1,629	1	27	30	-	-	1	15
Dist. of Columbia..	-	-	12	346	1	7	7	-	-	-	-
Virginia.....	2	121	1,615	1,182	1	19	40	-	-	-	9
West Virginia.....	-	65	972	3,943	-	16	10	-	-	-	19
North Carolina.....	5	8	768	204	2	45	72	-	-	-	-
South Carolina.....	-	66	418	498	1	20	40	-	-	-	-
Georgia.....	2	-	23	213	-	33	44	-	-	-	-
Florida.....	-	99	1,211	2,748	5	44	58	-	-	-	50
EAST SOUTH CENTRAL...	-	153	4,283	15,651	5	104	171	-	-	-	226
Kentucky.....	-	19	1,092	4,176	-	29	70	-	-	-	167
Tennessee.....	-	58	1,459	9,396	3	44	51	-	-	-	58
Alabama.....	-	63	1,113	1,295	1	19	38	-	-	-	1
Mississippi.....	-	13	619	784	1	12	12	-	-	-	-
WEST SOUTH CENTRAL...	5	406	14,788	17,582	4	165	278	-	-	2	2
Arkansas.....	1	8	1,359	730	-	19	16	-	-	-	-
Louisiana.....	-	13	117	75	4	63	108	-	-	-	-
Oklahoma.....	4	7	3,257	393	-	10	13	-	-	1	-
Texas.....	-	378	10,055	16,384	-	73	141	-	-	1	2
MOUNTAIN.....	1	198	3,373	8,386	-	21	67	-	-	-	140
Montana.....	-	1	238	1,261	-	-	4	-	-	-	12
Idaho.....	-	9	328	844	-	1	5	-	-	-	-
Wyoming.....	-	-	21	100	-	-	3	-	-	-	-
Colorado.....	1	88	967	832	-	10	36	-	-	-	60
New Mexico.....	-	12	490	837	-	3	9	-	-	-	-
Arizona.....	-	63	786	4,174	-	2	8	-	-	-	67
Utah.....	-	18	279	305	-	3	-	-	-	-	1
Nevada.....	-	7	264	33	-	2	2	-	-	-	-
PACIFIC.....	5	710	9,250	13,936	8	212	390	-	-	-	806
Washington.....	3	314	4,395	2,398	1	21	27	-	-	-	141
Oregon.....	-	94	1,232	968	1	18	26	-	-	-	25
California.....	2	280	3,419	10,406	6	164	319	-	-	-	564
Alaska.....	-	15	112	79	-	8	15	-	-	-	45
Hawaii.....	-	7	92	85	-	1	3	-	-	-	31
Puerto Rico.....	1	81	1,526	1,806	-	8	4	-	-	-	-

CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDED
MAY 13, 1967 AND MAY 14, 1967 (19th WEEK) - CONTINUED

AREA	STREPTOCOCCAL SORE THROAT & SCARLET FEVER	TETANUS		TULAREMIA		TYPHOID		TYPHUS FEVER TICK-BORNE (Rky. Mt. Spotted)		RABIES IN ANIMALS	
	1967	1967	Cum. 1967	1967	Cum. 1967	1967	Cum. 1967	1967	Cum. 1967	1967	Cum. 1967
UNITED STATES...	10,452	1	54	5	54	2	117	3	26	92	1,697
NEW ENGLAND.....	1,806	-	-	-	-	-	1	-	-	1	42
Maine.....	85	-	-	-	-	-	-	-	-	1	10
New Hampshire.....	51	-	-	-	-	-	-	-	-	-	25
Vermont.....	36	-	-	-	-	-	-	-	-	-	7
Massachusetts.....	423	-	-	-	-	-	1	-	-	-	-
Rhode Island.....	100	-	-	-	-	-	-	-	-	-	-
Connecticut.....	1,111	-	-	-	-	-	-	-	-	-	-
MIDDLE ATLANTIC.....	494	-	5	-	-	-	14	-	-	-	32
New York City.....	26	-	3	-	-	-	9	-	-	-	-
New York, Up-State.	431	-	1	-	-	-	3	-	-	-	23
New Jersey.....	NN	-	-	-	-	-	1	-	-	-	-
Pennsylvania.....	37	-	1	-	-	-	1	-	-	-	9
EAST NORTH CENTRAL...	981	-	2	2	8	-	10	1	4	17	148
Ohio.....	250	-	-	-	-	-	4	1	3	8	71
Indiana.....	146	-	-	-	1	-	-	-	1	1	22
Illinois.....	200	-	2	2	7	-	1	-	-	4	25
Michigan.....	254	-	-	-	-	-	4	-	-	1	5
Wisconsin.....	131	-	-	-	-	-	1	-	-	3	25
WEST NORTH CENTRAL...	579	-	1	-	10	-	2	-	-	27	369
Minnesota.....	18	-	1	-	-	-	-	-	-	3	71
Iowa.....	210	-	-	-	1	-	2	-	-	4	41
Missouri.....	30	-	-	-	3	-	-	-	-	3	81
North Dakota.....	205	-	-	-	-	-	-	-	-	4	63
South Dakota.....	27	-	-	-	-	-	-	-	-	1	50
Nebraska.....	60	-	-	-	-	-	-	-	-	4	26
Kansas.....	29	-	-	-	6	-	-	-	-	8	37
SOUTH ATLANTIC.....	1,152	1	13	-	7	1	16	-	10	9	232
Delaware.....	10	-	-	-	-	-	-	-	-	-	-
Maryland.....	228	-	-	-	-	1	2	-	-	-	-
Dist. of Columbia..	3	-	-	-	-	-	1	-	-	-	-
Virginia.....	400	1	4	-	-	-	2	-	2	3	123
West Virginia.....	309	-	-	-	1	-	1	-	-	1	39
North Carolina.....	11	-	4	-	-	-	2	-	7	-	1
South Carolina.....	20	-	-	-	2	-	3	-	-	-	-
Georgia.....	9	-	1	-	3	-	1	-	1	5	46
Florida.....	162	-	4	-	1	-	4	-	-	-	23
EAST SOUTH CENTRAL...	1,224	-	14	1	7	-	12	1	4	13	397
Kentucky.....	110	-	-	-	1	-	4	-	2	2	75
Tennessee.....	857	-	7	-	4	-	4	1	2	10	291
Alabama.....	102	-	5	-	-	-	4	-	-	1	29
Mississippi.....	155	-	2	1	2	-	-	-	-	-	2
WEST SOUTH CENTRAL...	982	-	11	-	12	-	17	-	2	19	332
Arkansas.....	1	-	3	-	1	-	3	-	-	2	53
Louisiana.....	2	-	1	-	2	-	11	-	-	-	30
Oklahoma.....	131	-	-	-	6	-	-	-	2	7	87
Texas.....	848	-	7	-	3	-	3	-	-	10	162
MOUNTAIN.....	1,890	-	-	-	7	-	15	-	3	2	44
Montana.....	63	-	-	-	1	-	1	-	-	-	-
Idaho.....	117	-	-	-	-	-	-	-	-	-	-
Wyoming.....	19	-	-	-	2	-	-	-	-	-	-
Colorado.....	1,024	-	-	-	1	-	11	-	3	-	5
New Mexico.....	299	-	-	-	-	-	-	-	-	1	10
Arizona.....	187	-	-	-	-	-	3	-	-	1	29
Utah.....	181	-	-	-	3	-	-	-	-	-	-
Nevada.....	-	-	-	-	-	-	-	-	-	-	-
PACIFIC.....	1,344	-	8	2	3	1	30	1	3	4	101
Washington.....	340	-	-	2	2	-	-	-	-	-	-
Oregon.....	59	-	-	-	-	-	-	-	-	-	1
California.....	835	-	6	-	1	1	27	1	3	4	100
Alaska.....	39	-	-	-	-	-	-	-	-	-	-
Hawaii.....	71	-	2	-	-	-	3	-	-	-	-
Puerto Rico.....	1	1	4	-	-	-	4	-	-	-	16

Week No. 19

DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDED MAY 13, 1967

(By place of occurrence and week of filing certificate. Excludes fetal deaths)

Area	All Causes		Pneumonia and Influenza	Under 1 year
	All Ages	65 years and over	All Ages	All Causes
NEW ENGLAND:	767	492	43	20
Boston, Mass.	251	161	17	10
Bridgeport, Conn.	43	24	4	4
Cambridge, Mass.*	31	22	1	-
Fall River, Mass.	23	14	-	2
Hartford, Conn.	58	32	1	-
Lowell, Mass.	25	16	3	-
Lynn, Mass.	30	19	1	-
New Bedford, Mass.	27	17	1	-
New Haven, Conn.	50	23	1	-
Providence, R. I.	66	45	4	2
Somerville, Mass.	15	7	-	-
Springfield, Mass.	54	40	5	1
Waterbury, Conn.	37	26	-	1
Worcester, Mass.	57	46	5	-
MIDDLE ATLANTIC:	3,437	2,054	122	154
Albany, N. Y.	50	27	-	3
Allentown, Pa.	36	27	1	-
Buffalo, N. Y.	170	100	4	7
Camden, N. J.	36	23	1	1
Elizabeth, N. J.	34	20	1	2
Erie, Pa.	36	25	-	2
Jersey City, N. J.	70	43	5	2
Newark, N. J.	96	47	5	4
New York City, N. Y.	1,683	1,003	62	82
Paterson, N. J.	34	16	2	3
Philadelphia, Pa.	541	324	12	22
Pittsburgh, Pa.	193	96	3	10
Reading, Pa.	41	26	4	1
Rochester, N. Y.	126	86	10	7
Schenectady, N. Y.	37	26	1	2
Scranton, Pa.	40	23	2	1
Syracuse, N. Y.	70	47	-	1
Trenton, N. J.	63	38	3	2
Utica, N. Y.	37	28	3	1
Yonkers, N. Y.	44	29	3	1
EAST NORTH CENTRAL:	2,642	1,501	61	126
Akron, Ohio	67	48	-	3
Canton, Ohio	31	22	1	1
Chicago, Ill.	781	424	25	33
Cincinnati, Ohio	164	90	3	9
Cleveland, Ohio	221	134	2	11
Columbus, Ohio	122	68	-	3
Dayton, Ohio	76	39	4	6
Detroit, Mich.	328	181	6	20
Evansville, Ind.	49	27	-	2
Flint, Mich.	33	15	-	3
Fort Wayne, Ind.	57	36	4	2
Gary, Ind.	50	30	2	1
Grand Rapids, Mich.	54	36	4	2
Indianapolis, Ind.	175	100	1	6
Madison, Wis.	42	23	1	2
Milwaukee, Wis.	127	80	1	7
Peoria, Ill.	47	25	-	5
Rockford, Ill.	24	16	2	2
South Bend, Ind.	29	16	1	-
Toledo, Ohio	99	58	4	4
Youngstown, Ohio	66	33	-	4
WEST NORTH CENTRAL:	832	515	18	35
Des Moines, Iowa	64	53	2	1
Duluth, Minn.	29	16	-	1
Kansas City, Kans.	36	19	4	3
Kansas City, Mo.	136	90	4	3
Lincoln, Nebr.	23	14	-	-
Minneapolis, Minn.	111	67	2	5
Omaha, Nebr.	85	51	1	6
St. Louis, Mo.	242	136	3	10
St. Paul, Minn.	54	35	-	3
Wichita, Kans.	52	34	2	3
SOUTH ATLANTIC:	1,025	506	33	52
Atlanta, Ga.	131	57	4	12
Baltimore, Md.	227	113	7	11
Charlotte, N. C.	32	16	2	3
Jacksonville, Fla.	46	20	3	-
Miami, Fla.	72	38	-	4
Norfolk, Va.	52	30	3	2
Richmond, Va.	81	38	4	8
Savannah, Ga.	28	15	-	2
St. Petersburg, Fla.	69	51	1	1
Tampa, Fla.	70	36	6	4
Washington, D. C.	188	77	2	5
Wilmington, Del.	29	15	1	-
EAST SOUTH CENTRAL:	648	339	31	26
Birmingham, Ala.	98	44	-	6
Chattanooga, Tenn.	44	29	5	2
Knoxville, Tenn.	43	32	3	1
Louisville, Ky.	116	65	12	3
Memphis, Tenn.	161	76	2	11
Mobile, Ala.	49	22	2	-
Montgomery, Ala.	37	21	1	1
Nashville, Tenn.	100	50	6	2
WEST SOUTH CENTRAL:	1,119	591	40	72
Austin, Tex.	45	30	3	1
Baton Rouge, La.	35	20	-	-
Corpus Christi, Tex.	35	17	2	6
Dallas, Tex.	152	76	3	8
El Paso, Tex.	43	17	3	6
Fort Worth, Tex.	77	47	4	6
Houston, Tex.	194	86	4	13
Little Rock, Ark.	51	33	5	3
New Orleans, La.	165	85	4	5
Oklahoma City, Okla.	66	42	2	4
San Antonio, Tex.	130	73	5	11
Shreveport, La.	45	25	2	4
Tulsa, Okla.	81	40	3	5
MOUNTAIN:	427	255	21	25
Albuquerque, N. Mex.	55	28	4	5
Colorado Springs, Colo.	12	8	-	-
Denver, Colo.	110	67	5	8
Ogden, Utah	18	11	-	1
Phoenix, Ariz.	114	66	5	10
Pueblo, Colo.	17	12	-	-
Salt Lake City, Utah	55	35	1	1
Tucson, Ariz.	46	28	6	-
PACIFIC:	1,637	948	43	82
Berkeley, Calif.	19	12	-	1
Fresno, Calif.	63	30	2	5
Glendale, Calif.	36	24	1	2
Honolulu, Hawaii	43	24	-	3
Long Beach, Calif.	91	57	4	4
Los Angeles, Calif.	477	267	10	33
Oakland, Calif.	102	62	-	4
Pasadena, Calif.	35	29	-	-
Portland, Oreg.	113	67	3	4
Sacramento, Calif.	69	44	3	4
San Diego, Calif.	104	52	1	4
San Francisco, Calif.	193	106	7	5
San Jose, Calif.	40	27	4	4
Seattle, Wash.	153	86	7	5
Spokane, Wash.	56	33	-	3
Tacoma, Wash.	43	28	1	1
Total	12,534	7,201	412	592

*Estimate - based on average percent of divisional total.

Cumulative Totals
including reported corrections for previous weeks

All Causes, All Ages	244,145
All Causes, Age 65 and over	141,132
Pneumonia and Influenza, All Ages	9,604
All Causes, Under 1 Year of Age	12,217

UNIVERSITY OF FLORIDA
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CURRENT TRENDS
INFLUENZA 1967 – Pinol County, Arizona

Influenza B has been isolated from 4 of 12 throat-swab specimens taken during the recent respiratory disease outbreak in Arizona (MMWR, Vol. 16, No. 17). This virus appears to be antigenically similar to strains circulating during the 1965-66 season, but full laboratory characterization has not yet been completed by the Laboratory Improvement Program, NCDC.

(Reported by the Respiratory Diseases Unit, Epidemiology Program, NCDC.)

INTERNATIONAL NOTES
QUARANTINE MEASURES

Immunization Information for International Travel 1965-66 edition–Public Health Service Publication No. 384

1. Soudi Arobio – Section 2 – Meosles – p. 16

Delete all information and any subsequent changes and insert:

"Live attenuated measles virus vaccine is recommended for international travel for all persons who have neither had measles nor been vaccinated previously."

2. Section 5 – Asio, Saudi Arobio – p. 55

Delete note under cholera and any subsequent changes and insert:

"Cholera – From May 1, 1967, until October 4, 1967, all arrivals from Afghanistan, Bahrain, Brunei, Burma, Cambodia, Ceylon, Hong Kong, India, Indonesia, Iran, Iraq, Malaysia, Nepal, Pakistan, Philippines, Thailand, Karakalpak and Uzbek (USSR), and Viet-Nam are required to possess a valid certificate of vaccination or revaccination against cholera and a certificate of a negative stool culture within 7 days prior to departure for Saudi Arabia. In addition, from October 4, 1967, through March 29, 1968, all arrivals from these countries must possess a certificate showing that they had stayed in a cholera-free area 5 days prior to their arrival in Saudi Arabia."

THE MDRBIDITY AND MDRTALITY WEEKLY REPORT, WITH A CIRCULATIDN DF 17,000, IS PUBLISHED AT THE NATIONAL COMMUNICABLE DISEASE CENTER, ATLANTA, GEDRGIA.

OIRECTDR, NATIDNAL COMMUNICABLE DISEASE CENTER — DAVID J. SENCER, M.D.
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IN ADOITIDN TD THE ESTABLISHED PRDCEDURES FDR REPDRTING MDRBIDITY AND MORTALITY, THE NATIDNAL CDMMUNICABLE DISEASE CENTER WELCOMES ACCDUNTS OF INTERESTING OUTBREAKS DR CASE INVESTIGATIDNS WHICH ARE DF CURRENT INTEREST TD HEALTH OFFICIALS AND WHICH ARE DIRECTLY RELATED TO THE CDNTRDL DF CDMMUNICABLE DISEASES. SUCH CDMMUNICATIDN$ SHDULD BE AODRESSED TD:

THE EOITDR
MDRBIOITY ANO MDRTALITY WEEKLY REPDRT
NATIDNAL CDMMUNICABLE DISEASE CENTER
ATLANTA, GEORGIA 30333

NDTE: THE OATA IN THIS REPORT ARE PRDVISIONAL AND ARE BASED DN WEEKLY TELEGRAMS TD THE NCDC BY THE INDIVIDUAL STATE HEALTH DEPARTMENTS. THE REPDRTING WEEK CDNCLUOES DN SATUROAY; CDMPILEO DATA DN A NATIDNAL BASIS ARE RELEASED ON THE SUCCEEDING FRIDAY.

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
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